



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

SW

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/992,079	11/19/2001	Robert A. Roth	DP-306071	9447
7590 12/08/2004 VINCENT A. CICHOSZ DELPHI TECHNOLOGIES, INC. Legal Staff, Mail Code: 480-414-420 P.O. Box 5052 Troy, MI 48007-5052			EXAMINER RIVELL, JOHN A	
			ART UNIT 3753	PAPER NUMBER
DATE MAILED: 12/08/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/992,079

Applicant(s)

ROTH, ROBERT A.

Examiner

John Rivell

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/04/04 (amend), 10/12, 10/18/04 IDS.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-15 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-15 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10122004, 10182004.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 3753

Applicant's arguments with respect to claims 11-15 and 17-20, filed October 4, 2004 have been considered but are moot in view of the new ground(s) of rejection.

Claims 1-10 and 16 have been canceled. Claims 11-15 and 17-20 remain pending.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-15 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchings in view of Gimby, Feinberg and Gakenholz.

The patent to Hutchings discloses "... an outlet member (9) having a first passageway therethrough; a valve housing (13) disposed in said first passageway of said outlet member (9); a valve seat (15) formed on an interior surface of said valve housing; a valve member (11, 16) disposed in said valve housing having an end adjacent said valve seat with (a, as shown in fig. 1, rectangular) groove having a generally (rectangular) cross-sectional shape extending radially into said end including a seal (20) disposed in said groove, said valve member having a closed position (fig. 2) in which said seal (20) engages said valve seat (15) to prevent (fluid) from flowing through said outlet member and an open position (fig. 3) to allow (fluid) to flow through said outlet member; a spring (21) disposed about said valve member and located axially between said valve seat (15) and one end of said valve housing to urge said valve member toward said valve seat; and said valve member having a (plurality of) outlet port(s) (19) disposed below ("below" being a relative term. Here both the claimed and reference device have the outlet port disposed in the same relative position on the valve element) said groove and located axially between said valve seat (15) and the one end

Art Unit: 3753

of said housing when said valve member is in said closed position to prevent (fluid) flow and to allow (fluid) flow when said valve member is in said open position" as recited in claim 11.

Thus the patent to Hutchings discloses all the claimed features with the exception of having utility in combination with a "fuel pump" thus controlling "fuel flow" from the fuel pump to the engine, a "circular" cross sectional groove with a complementary circular seal element as well as "a single outlet port" in the valve member.

Firstly, the patent to Gimby discloses that it is known in the art to employ an elastomeric seal at elastomeric O-ring 18 (column 2, lines 65-68) as a seal element on a reciprocating hollow valve element 34 including axial 26 and radial 28 paths, seated within a complementary circular groove in the valve head, for the purpose of withstanding repeated use yet maintaining fluid tight closure of the valve.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Hutchings an elastomeric material seal element seated within a complementary circular groove in the valve head in place of seal element 20 of Hutchings for the purpose of withstanding repeated use yet maintaining fluid tight closure of the valve as recognized by Gimby.

Secondly, the patent to Feinberg discloses that it is known in the art to employ a single radial outlet port 35, or 36 in a reciprocating valve member conducting fluid flow from a hollow interior of the valve member to the exterior of the valve member up-on the valve member moving to an open position for the purpose of providing a designed flow rate through the valve (column 3, lines 24-41).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Hutchings a single port of designed size for the purpose of a designed flow rate through the valve as recognized by Feinberg.

Thirdly, Gakenholz discloses that it is known in the art to employ, in combination, a fuel pump device shown generally at inlet 13, pump section at 11 and an outlet section generally at 10 including an outlet check valve mechanism at 29 for the purpose of strictly feeding fuel in one direction only to an engine.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ the device of Hutchings, as modified by Gimby and Feinberg, in combination with a fuel feed pump of an engine as an outlet check valve from the fuel pump for the purpose of strictly feeding fuel in one direction only to an engine as recognized by Gakenholz.

Regarding claim 12, in Hutchings "said valve housing (13) has a second passageway (12) extending axially therethrough to receive said stem (11)" as recited.

Regarding claim 13, in Hutchings "said valve housing (13) has an enlarged opening at one end (at the right end) of said passageway (12)" as recited.

Regarding claim 14, in Hutchings "said valve member (tubular member 11) has a flow port (the interior bore) extending axially into one end thereof" as recited.

Regarding claim 15, in Hutchings "said outlet port(s) 19 extend radially through said valve member (11) and communicates with said flow port" as recited. In the device of the combination, the "single outlet port taught by Feinberg will "extend radially" as recited.

Regarding claim 17, in Hutchings "said spring (21) comprises a coil spring" as recited.

Regarding claim 18, in Hutchings, as modified by Gimby, "said seal is made of elastomeric material" as recited.

Regarding claim 19, Gakenholz clearly discloses the combination including a "fuel pump comprising; a pump section (at the left end of the housing 11 including the pumping elements 27) at one axial end; a motor section (at motor armature 17); an outlet section (10) adjacent said motor section at the other axial end, said outlet section including an outlet member (one way check valve 29) having a passageway therethrough" as recited.

Regarding claim 20, in Hutchings, "said valve member (tubular member 11) has a flow port (the interior bore therethrough) extending axially into one end thereof and said outlet port(s 19) extends radially through said valve member and communicates with said flow port" as recited. In the device of the combination a "single outlet port (will) extend radially through said valve member and communicate with said flow port" as taught by Gimby, as recited.

Response to Arguments

In response to applicant's arguments that Gimby, Feinberg and now presumably Hutchings and Gakenholz lack "a fuel pump having a valve member with a single outlet port disposed below a groove thereof and located axially between a valve seat and one end of a valve housing when the valve member is in a closed position to prevent fuel flow and to allow fuel flow when the valve member is in an open position" one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

It is agreed that each reference individually lacks certain claimed features. Anticipation by the reference of all of the claimed features is not required for a reference to be considered proper under 35 §103(a).

Here however, under 35 §103(a), Hutchings is used to illustrate known check valve devices which disclose "an outlet member (9) having a first passageway therethrough; a valve housing (13) disposed in said first passageway of said outlet member (9); a valve seat (15) formed on an interior surface of said valve housing; a valve member (11, 16) disposed in said valve housing having an end adjacent said valve seat with (a, as shown in fig. 1, rectangular) groove having a generally (rectangular) cross-sectional shape extending radially into said end including a seal (20) disposed in said groove, said valve member having a closed position (fig. 2) in which said seal (20) engages said valve seat (15) to prevent (fluid) from flowing through said outlet member and an open position (fig. 3) to allow (fluid) to flow through said outlet member; a spring (21) disposed about said valve member and located axially between said valve seat (15) and one end of said valve housing to urge said valve member toward said valve seat; and said valve member having a (plurality of) outlet port(s) (19) disposed below ("below" being a relative term. Here both the claimed and reference device have the outlet port disposed in the same relative position on the valve element) said groove and located axially between said valve seat (15) and the one end of said housing when said valve member is in said closed position to prevent (fluid) flow and to allow (fluid) flow when said valve member is in said open position" as recited in claim 11.

Gakenholz is used to illustrate that it is known in the check valve art to employ a check valve device 28, located in the outlet conduit of a fuel pump 22 of a vehicle

Art Unit: 3753

leading to an engine 26 of the vehicle for the purpose of preventing backflow of fuel from the engine to the fuel pump.

Feinberg is used to illustrate that it is known in the check valve art to employ a single radial outlet port 35, or 36 in a reciprocating valve member conducting fluid flow from a hollow interior of the valve member to the exterior of the valve member upon the valve member moving to an open position for the purpose of providing a designed flow rate through the valve.

Gimby is used to illustrate that it is known in the check valve art to employ a circular groove in a valve head receiving a circular elastomeric seal element therein for repeated use of the valve e.g. opening and closing.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, as set forth above, Gakenholz is used for the reasonable suggestion to one of ordinary skill in the art the utility of the valve element of Hutchings in the environment of a fuel pump feeding fuel to an engine such that the fuel flow from the pump to the engine, in the communication conduit, is one way as provided for by the teaching in Gakenholz of a one way check valve in the fuel conducting line. Further, Feinberg is used for the

Art Unit: 3753

reasonable suggestion to one of ordinary skill in the art the utility of a single valve port in a hollow sleeve type reciprocating valve element so that a designed flow rate, determined by the size of the single hole, is employed in a check valve to limit the flow rate in check valve flow devices. Further Gimby is used for the reasonable suggestion to one of ordinary skill in the art the employment of a circular groove seating a circular elastomeric seal element therein in a valve head to withstand repeated opening and closing.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

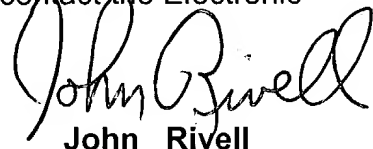
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (571) 272-4918. The examiner can normally be reached on Mon.-Thur. from 6:30am-5:00pm.

Art Unit: 3753

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on (571) 272-4930. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "John Rivell", is positioned above the printed name.

John Rivell
Primary Examiner
Art Unit 3753

j.r.